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## PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

EH-10937 (03-358)

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]

on February 28, 2007

Signature

Typed or printed name Antoinette Sullo

Application Number

10/618,059

Filed

July 11, 2003

First Named Inventor

Brian J. Schwartz

Art Unit

3723

Examiner

H. Shakeri

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐

applicant/inventor.

☐

assignee of record of the entire interest.

See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.  
(Form PTO/SB/96)

☒

attorney or agent of record.

Registration number 37,238

☐

attorney or agent acting under 37 CFR 1.34.

Registration number if acting under 37 CFR 1.34 \_\_\_\_\_

Signature

William B. Slate

Typed or printed name

203-777-6628

Telephone number

February 28, 2007

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.  
Submit multiple forms if more than one signature is required, see below\*.

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\*Total of \_\_\_\_\_ forms are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

App. No.:	10/618,059	Att'y Docket:	EH-10937 (03-358)
Filing Date:	July 11, 2003	Conf No.:	4332
Inventor(s):	Brian J. Schwartz et al.	Group Art Unit:	3723
Assignee:	United Technologies Corp.	Examiner:	H. Shakeri
Title:	COOLANT NOZZLE		

Correspondence Address:  
Customer Number 34704

Reasons Appendix

Mail Stop AF  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Introductory Comments

Claims 1-8, 10, 11, 13-16, and 18-26 were pending in the application. Claims 1-8, 10, 11, 13-16, and 18-26 were rejected. No claims were merely objected to and no claims were allowed.

Background

The inventors work in the machining of jet engine components (for ease of reference, use blades as an example). The blades may be machined by milling and/or abrasive grinding (e.g., using an abrasive bit such as a superabrasive quill).

Cooling of the quill and workpiece is important. A coolant system must balance adequate delivery of coolant against interfering with maneuvering of the quill. In a basic example, coolant is delivered by one or more small tubes terminating near the quill.

Distinct from the machining of the blades or other components, the industry uses rapid prototyping techniques such as selective laser sintering to create prototypes. Thus, selective laser sintering may be used to manufacture sintered ceramic and/or polymeric blade prototypes.

The inventors adopted selective laser sintering for manufacturing a coolant nozzle. Doing so involves several non-obvious factors. First (but not necessarily indicating a time order or

importance) the inventors determined that selective laser sintering could yield an actual usable nozzle rather than just making components for a non-functional prototype of a metallic nozzle.

Second, divorced from the constraints of having to engineer the nozzle to ultimately be made using conventional metal manufacturing techniques, the inventors were able to engineer the nozzle with features impractical for a metal nozzle (e.g., a combination of coverage and compactness technically difficult or expensive to manufacture in metal).

The Office action engages in a total hindsight reconstruction. A ceramic core sandblasting nozzle (Perkins et al. US4252768) is selected to provide the sintered and/or ceramic material even though a totally different field/application/situation and even though the ceramic material is present for totally different reasons than in the coolant nozzle. This is then combined with still dissimilar nozzles from different areas of machining and additional hindsight modifications under the guise of optimization, etc.

#### Specification Objection (formerly Claim Rejections-35 U.S.C. 112)

At page 2, ¶1, the disclosure was objected to for lack of sufficient support for claims 16-19. It was asserted that these claims "recite for an embodiment wherein one outlet discharges more than one stream." It was admitted that Applicants had possession of the invention and one of ordinary skill in the art would have known how to provide such streams. However, the claims in question only identify that an outlet discharge "at least one" stream. There is no statutory requirement for Applicants to show examples of an outlet discharging multiple streams.

#### Claim Rejections-35 U.S.C. 102

Claims 10, 11, and 13-15 were rejected under 35 U.S.C. 102(e) as being anticipated by DE 202 16 396. For ease of review or reference, Applicants note that these claims were not limited by nozzle material.

Claim 10 identifies the presence of an elongate abrasive bit. There is no suggestion for DE '396 having such an elongate bit. DE '396 involves a polishing disk for polishing the edges of flat glass panels. Accordingly, DE '396 cannot anticipate claim 10. The assertion of an elongated bit totally vitiates the term and is unreasonably inconsistent with interpretation in the art. The Office action isolated the shaft of the polishing disk and found elongatedness. Office action, page

6, ¶11. There is no specific suggestion for use with an elongated tool and assertions of inherency are unsupported.

Also, the two apparent groups of outlets 26' and 26" in DE'396 FIG. 12 are at different radial positions as shown below. This precludes both groups being applied to the claims and the "no other" element of claim 10 precludes the possibility that only one of these two groups is applied while the other is ignored. Accordingly, DE '396 all the more cannot anticipate claim 11. FIG. 8 was also cited as having a single group of outlets. However, the disk 16 is even more distinguished from an elongate bit.

#### Claims Rejections-35 U.S.C. 103

Claims 1-11, 13-16, and 18-26 were rejected under 35 U.S.C. 103(a) as unpatentable over Reitmeyer (US6471573).

Reitmeyer discloses a nozzle attached to a die grinder-type apparatus. The nozzle appears to be a machined metallic assembly and has a small number of outlets in a small radial sector adjacent to the grinding bit. It does not disclose the claimed outlet distribution or coverage (e.g., including reference to a claim 1 minimum gap between outlets which is greatly exceeded by the large clear sector of Reitmeyer in which there is no coverage).

In the paragraph spanning pages 3 and 4, it was asserted that Reitmeyer recited "any desired number of such outlet ports... may be located in any desired positions..." However, the Office's position mistakenly treats this passage as if it had disclosed all numbers and positions of outlets. Clearly, Reitmeyer might enable some scope of variations beyond its particular illustrated embodiment. However, there is no suggestion that it would enable or otherwise render obvious the presently-claimed invention.

It was asserted that the changed shape involves only routine skill in the art. There is no support for this erroneous statement. Furthermore, the citation to *In re Stevens* is irrelevant because *Stevens* does not support that proposition. There is no support for the erroneous assertion that one would make the claimed shape changes merely based upon workpiece parameters.

Furthermore, in the second full paragraph of page 4, it was asserted that:

"sintered body, is not germane to the issue of patentability of the device itself. However, sintering to make the device last longer and/or to protect it against corrosion, is known in the art and such modification would have been well within the knowledge of one of ordinary skill in the art."

This erroneous statement is without substantiation and citation. There is no indication that one of ordinary skill in the art would provide Reitmeyer with a sintered body, let alone that the sintered body would either make Reitmeyer last longer or protect it against corrosion in the Reitmeyer application. If anything, the opposite would be the case.

In the third full paragraph of page 4, the Office action further bootstraps a previously made argument. There is no indication that Reitmeyer discloses the use of a superabrasive bit.

Reitmeyer's FIG. 4 clearly shows that it is not workpiece configuration that keeps Reitmeyer's coverage to a small non-redundant circumferential extent. No part of the workpiece is shown blocking the remaining area of the circumference.

Regarding claim 19, the Office action cited *In re Leshin*. However, *Leshin* is inapposite. *Leshin* involved a claim to a molded plastic container. Although one reference was a metal container, a second reference was plastic: "...Anderson shows a similar container of molded plastic and applicant concedes that the plastics he uses are well known..." 125 USPQ 417. In the present case, there is no similar sintered coolant nozzle to that presently claimed. There is no suggestion that one of ordinary skill in the art to which the present invention most closely pertains would have selected a sintered material generally, or a sintered ceramic particularly.

Claims 10, 11, and 13-15 were rejected under 35 U.S.C. 103(a) as unpatentable over Reitmeyer either alone or in view of DE'396.

This is merely a hindsight reconstruction of the present invention. The attempted modification of Reitmeyer, if possible, would greatly increase Reitmeyer's already high complexity and manufacturing cost. This is evidenced by the number of parts and machining steps required just to provide the three outlets of Reitmeyer. This further confirms the non-obviousness of the present invention.

Claims 1-9, 16, and 18-26 were rejected under 35 U.S.C. 103(a) as unpatentable over Reitmeyer in view of Perkins et al. (US4252768).

There is no suggestion for the proposed combination. This is merely a hindsight reconstruction. There is no suggestion that one of ordinary skill in the art would seek Perkins et al. or, if presented with Perkins et al. choose any modification based thereon. Perkins et al.

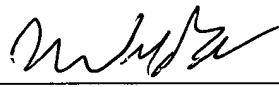
involves considerations particular to sandblasting nozzles and not coolant nozzles. The ceramic core of Perkins et al. appears chosen for interfacing with the sandblasting medium which requires abrasion resistance and high temperature resistance. There is no suggestion that these properties are appropriate for coolant use. There is no suggestion to use it for coolant. There is furthermore no suggestion that one, if using Perkins et al., would make the claimed nozzle as a single piece. For example, if molded, one would effectively duplicate the multiple pieces of Reitmeyer with multiple ceramic pieces, potentially needing further housing structure to hold them together. There is no indication that the single piece nature of Perkins et al. core (as distinguished from the nozzle of Reitmeyer ) would be preserved in making more complex structure.

Claims 1-9, 16, and 18-26 were rejected under 35 U.S.C. 103(a) as being unpatentable over DE '396 either alone or in view of Perkins et al.

This rejection suffers from the same deficiencies as do the underlying DE '396 rejection and the Reitmeyer in view of Perkins et al. rejection.

Accordingly, Applicants submit that claims 1-8, 10, 11, 13-16, 18-26 are in condition for allowance. Please charge any fees or deficiency or credit any overpayment to our Deposit Account of record.

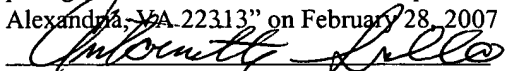
Respectfully submitted,

By   
\_\_\_\_\_  
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Date: February 28, 2007

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313" on February 28, 2007

  
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Antoinette Sfillo